

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

**WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD  
 Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
---	---	------------------------------------

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
----------------	-------	---------	------------	--

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	DOERR 5-34
Doc ID	1485452

Tops

Name	Top	Datum
Top Anhydrite	1247'	+804
Base Anhydrite	1288'	+763
Topeka	3022'	-971
Heebner	3293'	-1242
Toronto	3315'	-1264
LKC	3340'	-1289
BKC	3581'	-1530
Marmaton	3601	-1550
Arbuckle	3634'	-1583





## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co**

PO Box 1019  
Hays KS 67601+1019

ATTN: Marc Downing

**Doerr #5-34**

**34-15s-19w Ellis,KS**

Start Date: 2019.12.07 @ 02:00:00

End Date: 2019.12.07 @ 08:51:15

Job Ticket #: 66367                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.12.09 @ 10:50:39



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co  
 PO Box 1019  
 Hays KS 67601+1019  
 ATTN: Marc Dow ning

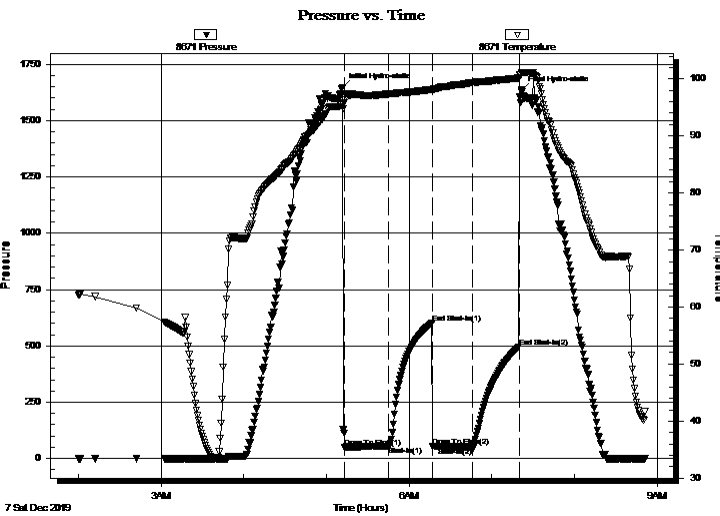
**34-15s-19w Ellis,KS**  
**Doerr #5-34**  
 Job Ticket: 66367 **DST#: 1**  
 Test Start: 2019.12.07 @ 02:00:00

## GENERAL INFORMATION:

Formation: **LKC E**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:13:00  
 Time Test Ended: 08:51:15  
 Interval: **3389.00 ft (KB) To 3412.00 ft (KB) (TVD)**  
 Total Depth: 3412.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Spencer J Staab  
 Unit No: 84  
 Reference Elevations: 2051.00 ft (KB)  
 2043.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 8671 Outside**  
 Press@RunDepth: 51.61 psig @ 3390.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.12.07 End Date: 2019.12.07 Last Calib.: 2019.12.07  
 Start Time: 02:00:05 End Time: 08:51:14 Time On Btm: 2019.12.07 @ 05:11:45  
 Time Off Btm: 2019.12.07 @ 07:21:30

**TEST COMMENT:** 30-IF-Slid 13': Built to 3/4"  
 30-ISI-No Return  
 30-FF-Weak Surface  
 30-FSI-No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1647.55	95.61	Initial Hydro-static
2	50.67	96.26	Open To Flow (1)
34	52.90	97.35	Shut-In(1)
65	600.89	98.14	End Shut-In(1)
66	52.74	97.95	Open To Flow (2)
95	51.61	99.33	Shut-In(2)
128	496.23	100.16	End Shut-In(2)
130	1634.56	101.01	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	Mud 100%M	0.71

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**34-15s-19w Ellis,KS**

PO Box 1019  
Hays KS 67601+1019

**Doerr #5-34**

Job Ticket: 66367

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2019.12.07 @ 02:00:00

## Tool Information

Drill Pipe:	Length: 3360.00 ft	Diameter: 3.82 inches	Volume: 47.63 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 13.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3389.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	23.00 ft			
Tool Length:	50.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3367.00	
Hydraulic tool	5.00			3372.00	
Gap Sub	4.00			3376.00	
Safety Joint	3.00			3379.00	
Packer	5.00			3384.00	27.00 Bottom Of Top Packer
Packer	5.00			3389.00	
Stubb	1.00			3390.00	
Recorder	0.00	8360	Inside	3390.00	
Recorder	0.00	8671	Outside	3390.00	
perforations	18.00			3408.00	
Bullnose	4.00			3412.00	23.00 Bottom Packers & Anchor

**Total Tool Length: 50.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co

**34-15s-19w Ellis,KS**

PO Box 1019  
Hays KS 67601+1019

**Doerr #5-34**

Job Ticket: 66367

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2019.12.07 @ 02:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: ppm

Viscosity: 50.00 sec/qt

Cushion Volume: bbl

Water Loss: 8.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 16500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	Mud 100%M	0.715

Total Length: 70.00 ft      Total Volume: 0.715 bbl

Num Fluid Samples: 0

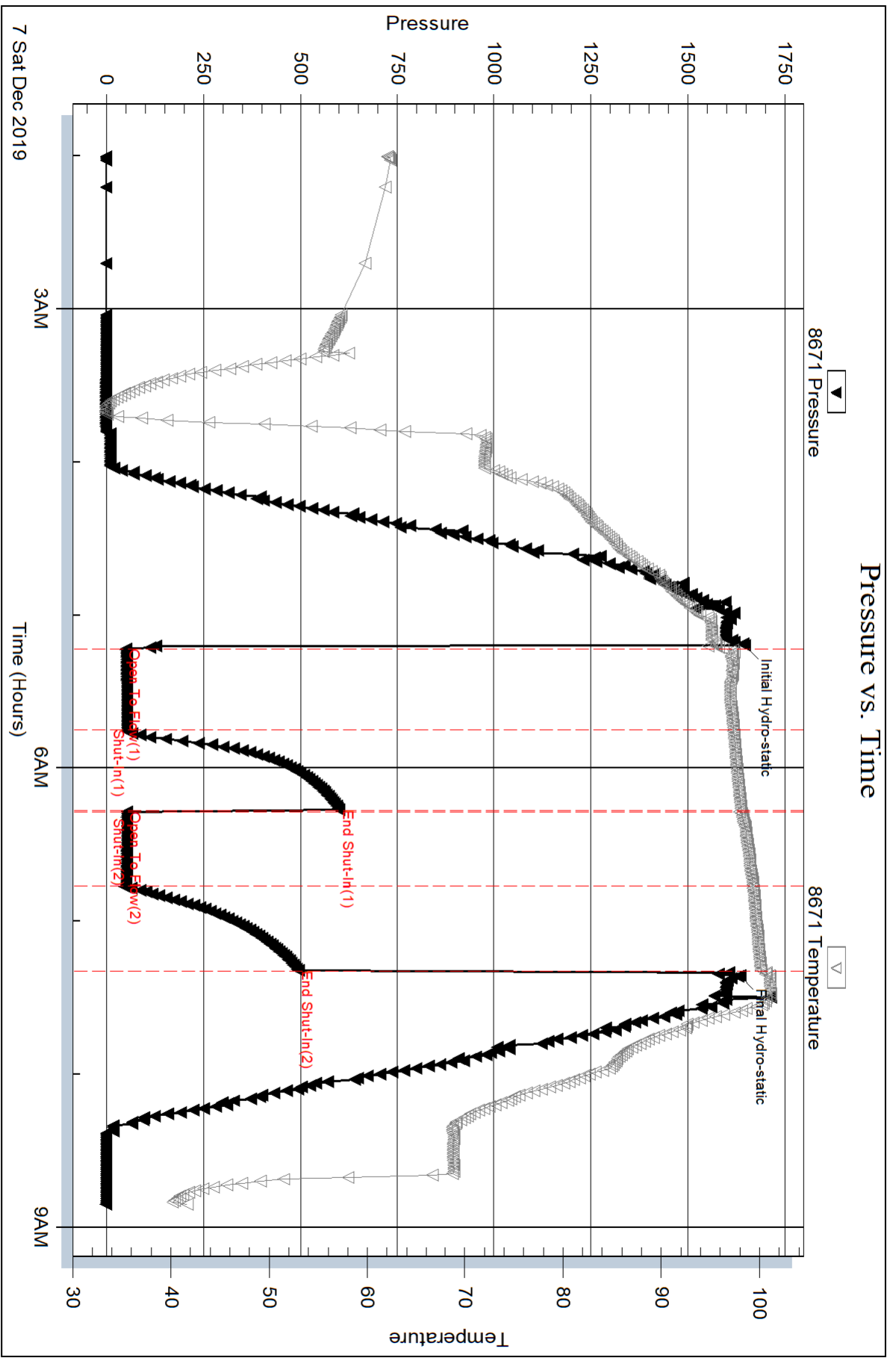
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2&1/2# LCM



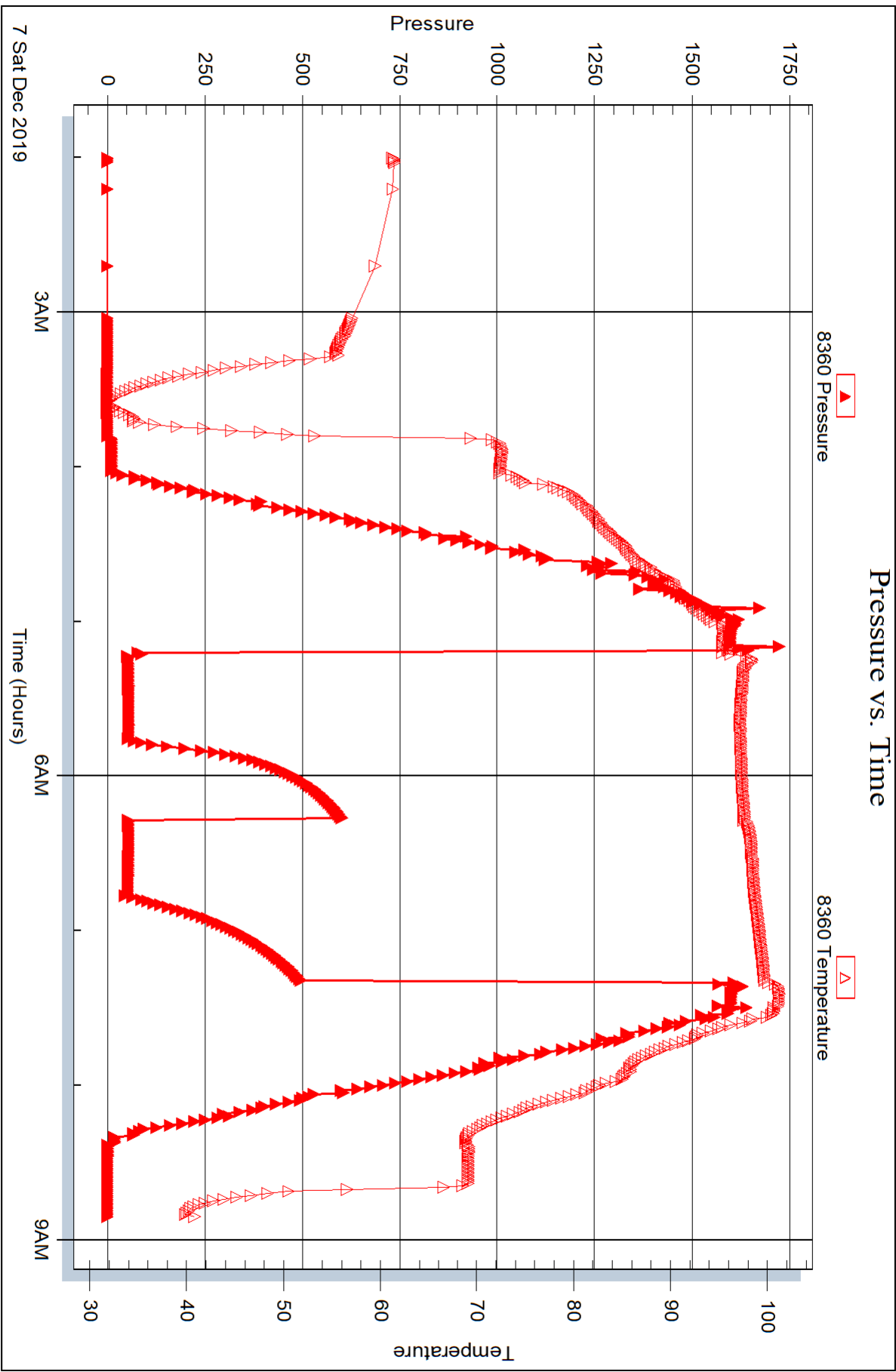
Serial #: 8360

Inside

Dow nting-Nelson Oil Co

Doerr #5-34

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co**

PO Box 1019  
Hays KS 67601+1019

ATTN: Marc Downing

**Doerr #5-34**

**34-15s-19w Ellis,KS**

Start Date: 2019.12.07 @ 19:44:00

End Date: 2019.12.08 @ 01:02:30

Job Ticket #: 66335                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.12.09 @ 10:50:15



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co  
PO Box 1019  
Hays KS 67601+1019  
ATTN: Marc Dow ning

**34-15s-19w Ellis,KS**

**Doerr #5-34**

Job Ticket: 66335

**DST#: 2**

Test Start: 2019.12.07 @ 19:44:00

## GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:30:00

Time Test Ended: 01:02:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

**Interval: 3456.00 ft (KB) To 3530.00 ft (KB) (TVD)**

Reference Elevations: 2051.00 ft (KB)

Total Depth: 3530.00 ft (KB) (TVD)

2043.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

**Serial #: 8671**

**Outside**

Press@RunDepth: 25.78 psig @ 3457.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.12.07 End Date: 2019.12.08

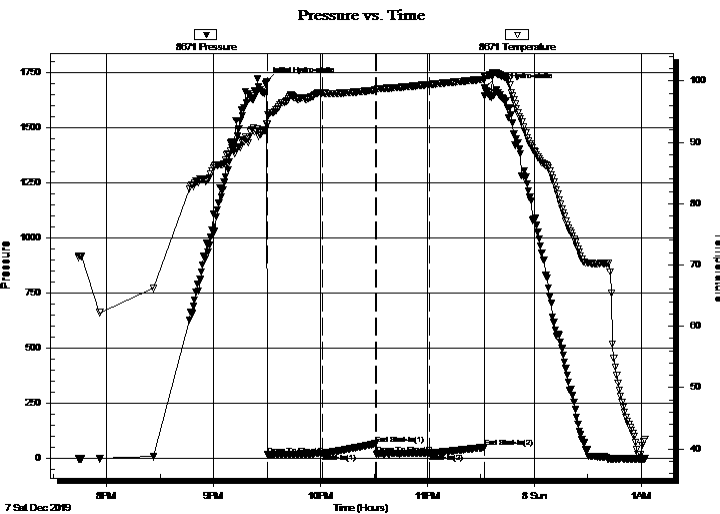
Last Calib.: 2019.12.08

Start Time: 19:44:05 End Time: 01:02:29

Time On Btm: 2019.12.07 @ 21:29:45

Time Off Btm: 2019.12.07 @ 23:32:15

**TEST COMMENT:** 30 - IF - Surface blow slowly built up to 1"  
30 - ISI - No Return  
30 - FF - Surface blow started right away and slowly built to 1"  
30 - FSI - No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1708.25	93.04	Initial Hydro-static
1	17.26	92.97	Open To Flow (1)
31	23.67	98.04	Shut-In(1)
61	67.30	98.50	End Shut-In(1)
62	21.20	98.59	Open To Flow (2)
92	25.78	99.41	Shut-In(2)
122	51.17	100.27	End Shut-In(2)
123	1680.67	100.72	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM - Oil Spots - 100%m	0.02

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**34-15s-19w Ellis,KS**

PO Box 1019  
Hays KS 67601+1019

**Doerr #5-34**

Job Ticket: 66335

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2019.12.07 @ 19:44:00

## Tool Information

Drill Pipe:	Length: 3435.38 ft	Diameter: 3.25 inches	Volume: 35.25 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.52 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 35.41 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.90 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3456.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	74.00 ft			
Tool Length:	94.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3441.00	
Hydraulic tool	5.00			3446.00	
Packer	5.00			3451.00	20.00 Bottom Of Top Packer
Packer	5.00			3456.00	
Stubb	1.00			3457.00	
Recorder	0.00	8360	Inside	3457.00	
Recorder	0.00	8671	Outside	3457.00	
Perforations	5.00			3462.00	
Change Over Sub	1.00			3463.00	
Drill Pipe	63.00			3526.00	
Change Over Sub	1.00			3527.00	
Bullnose	3.00			3530.00	74.00 Bottom Packers & Anchor

**Total Tool Length: 94.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Co

**34-15s-19w Ellis,KS**

PO Box 1019  
Hays KS 67601+1019

**Doerr #5-34**

Job Ticket: 66335

**DST#: 2**

ATTN: Marc Downing

Test Start: 2019.12.07 @ 19:44:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM - Oil Spots - 100%m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

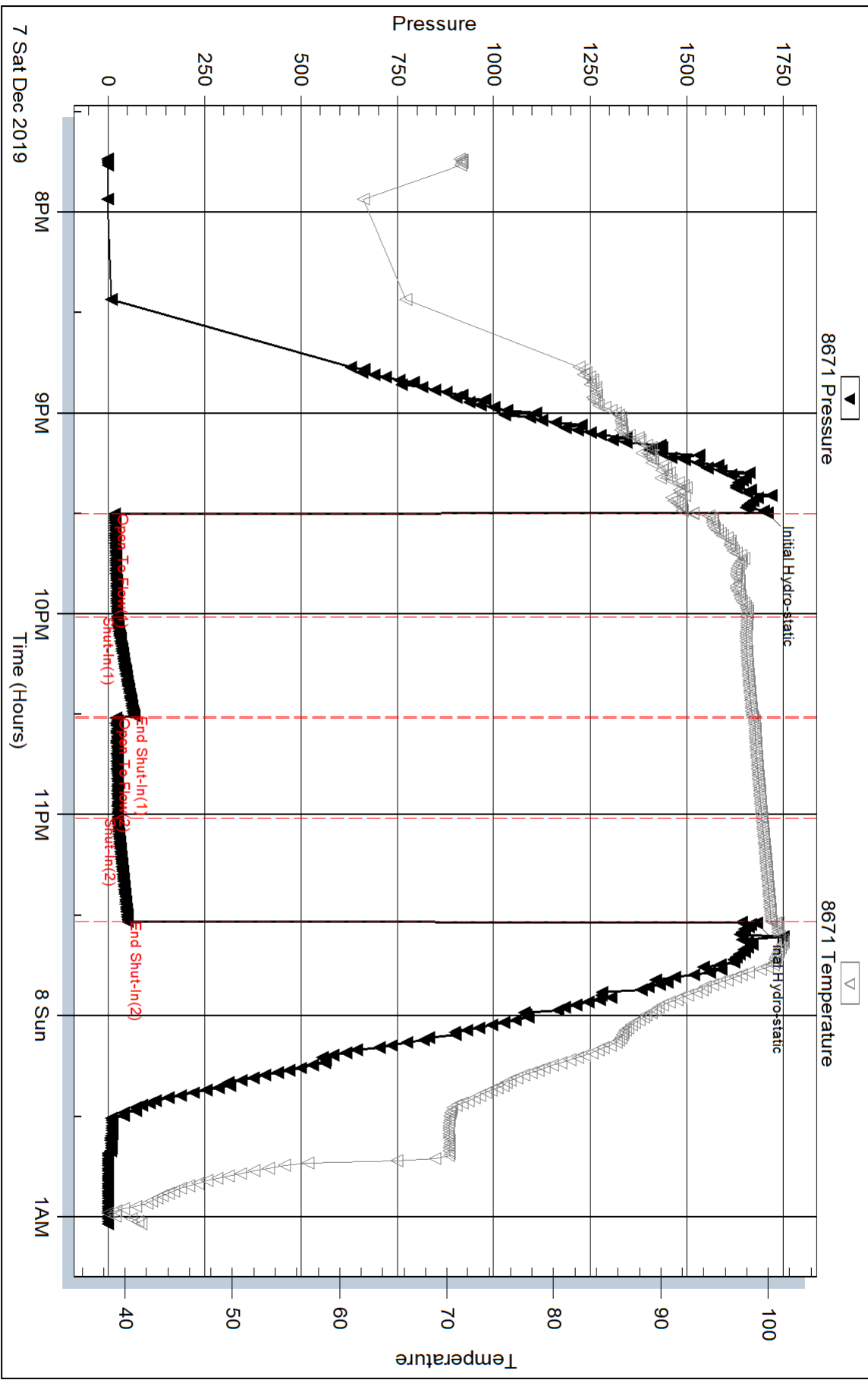
Laboratory Name:

Laboratory Location:

Recovery Comments:



### Pressure vs. Time



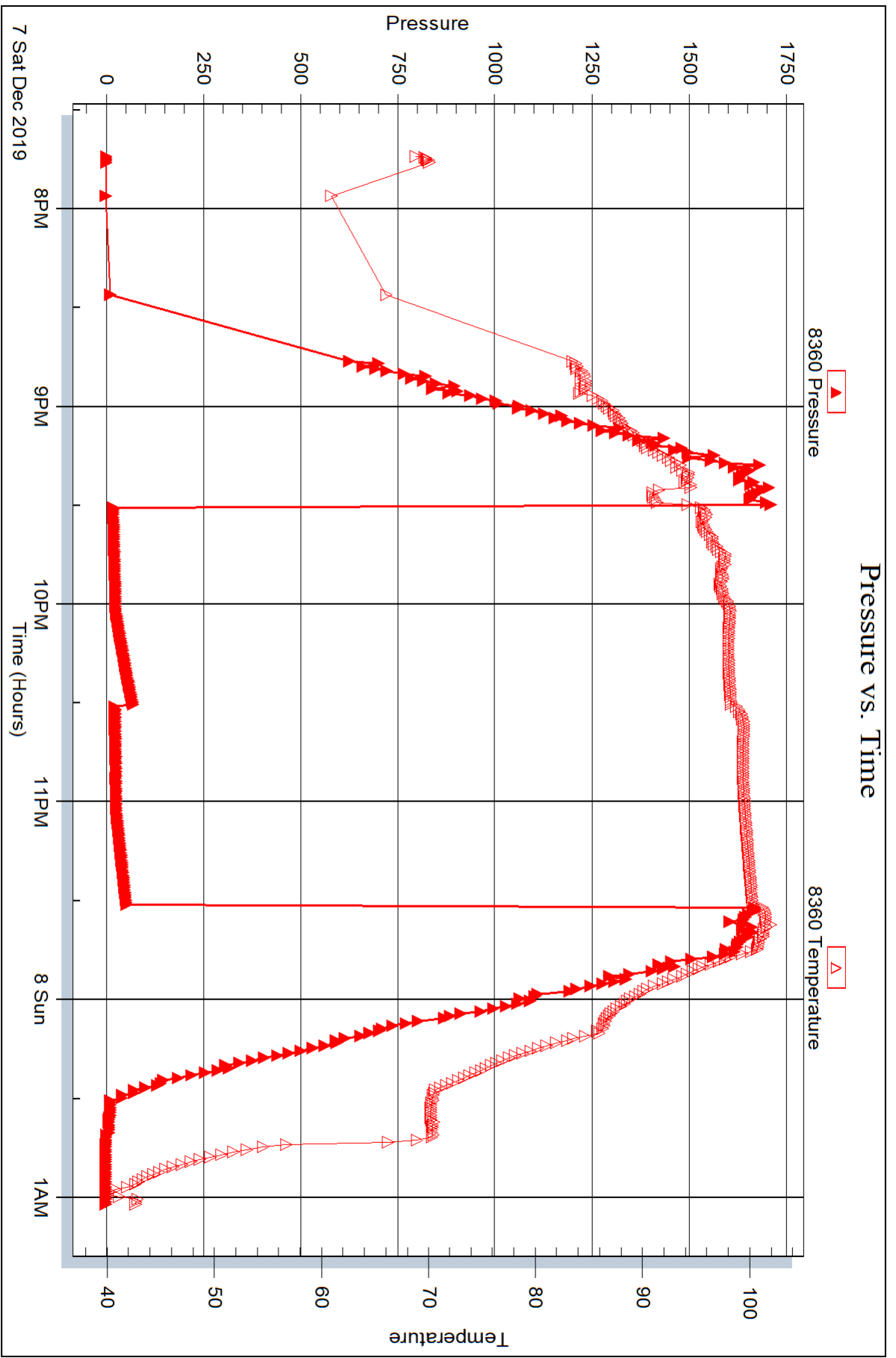
Serial #: 8360

Inside

Dow niny-Nelson Oil Co

Doerr #5-34

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 66335

Printed: 2019.12.09 @ 10:50:16



## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co**

PO Box 1019  
Hays KS 67601+1019

ATTN: Marc Downing

**Doerr #5-34**

**34-15s-19w Ellis,KS**

Start Date: 2019.12.08 @ 12:03:00

End Date: 2019.12.08 @ 18:31:15

Job Ticket #: 66336                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.12.09 @ 10:49:44



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co  
 PO Box 1019  
 Hays KS 67601+1019  
 ATTN: Marc Dow ning

**34-15s-19w Ellis,KS**

**Doerr #5-34**

Job Ticket: 66336

**DST#: 3**

Test Start: 2019.12.08 @ 12:03:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 13:46:45  
 Tester: Royal Fisher  
 Time Test Ended: 18:31:15  
 Unit No: 77  
 Interval: **3625.00 ft (KB) To 3639.00 ft (KB) (TVD)**  
 Reference Elevations: 2051.00 ft (KB)  
 Total Depth: 3639.00 ft (KB) (TVD)  
 2043.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 8.00 ft

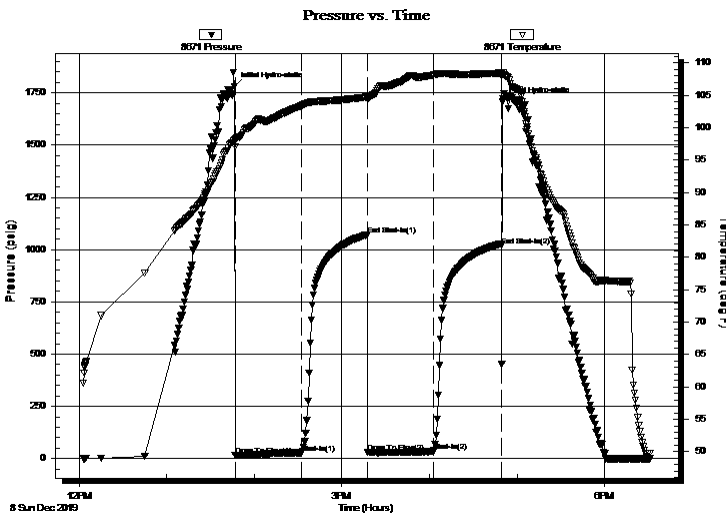
## Serial #: 8671

**Outside**

Press@RunDepth: 33.42 psig @ 3626.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2019.12.08 End Date: 2019.12.08 Last Calib.: 2019.12.08  
 Start Time: 12:03:05 End Time: 18:31:14 Time On Btm: 2019.12.08 @ 13:46:30  
 Time Off Btm: 2019.12.08 @ 16:50:00

TEST COMMENT: 45 - IF - Started at a weak blow and built up to 4 3/4"  
 45 - ISI - No Return  
 45 - FF - Started at a weak blow and built to 3 3/4"  
 45 - FSI - No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1778.41	98.18	Initial Hydro-static
1	14.48	97.05	Open To Flow (1)
46	27.24	103.43	Shut-In(1)
91	1070.61	104.74	End Shut-In(1)
92	29.55	104.42	Open To Flow (2)
137	33.42	108.11	Shut-In(2)
183	1020.02	108.43	End Shut-In(2)
184	1706.03	108.53	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	GMCO - 10%g 10%m - 80%o	0.10
30.00	GO - 10%g - 90%o	0.25
0.00	10' - GIP	0.00

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing-Nelson Oil Co

**34-15s-19w Ellis,KS**

PO Box 1019  
Hays KS 67601+1019

**Doerr #5-34**

Job Ticket: 66336

**DST#: 3**

ATTN: Marc Downing

Test Start: 2019.12.08 @ 12:03:00

## Tool Information

Drill Pipe:	Length: 3593.96 ft	Diameter: 3.25 inches	Volume: 36.88 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.52 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 37.04 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.48 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3625.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	34.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3610.00	
Hydraulic tool	5.00			3615.00	
Packer	5.00			3620.00	20.00 Bottom Of Top Packer
Packer	5.00			3625.00	
Stubb	1.00			3626.00	
Recorder	0.00	8360	Inside	3626.00	
Recorder	0.00	8671	Outside	3626.00	
perforations	10.00			3636.00	
Bullnose	3.00			3639.00	14.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>34.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Co

**34-15s-19w Ellis,KS**

PO Box 1019  
Hays KS 67601+1019

**Doerr #5-34**

Job Ticket: 66336

**DST#: 3**

ATTN: Marc Downing

Test Start: 2019.12.08 @ 12:03:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	GMCO - 10%g 10%m - 80%o	0.098
30.00	GO - 10%g - 90%o	0.246
0.00	10' - GIP	0.000

Total Length: 50.00 ft      Total Volume: 0.344 bbl

Num Fluid Samples: 0

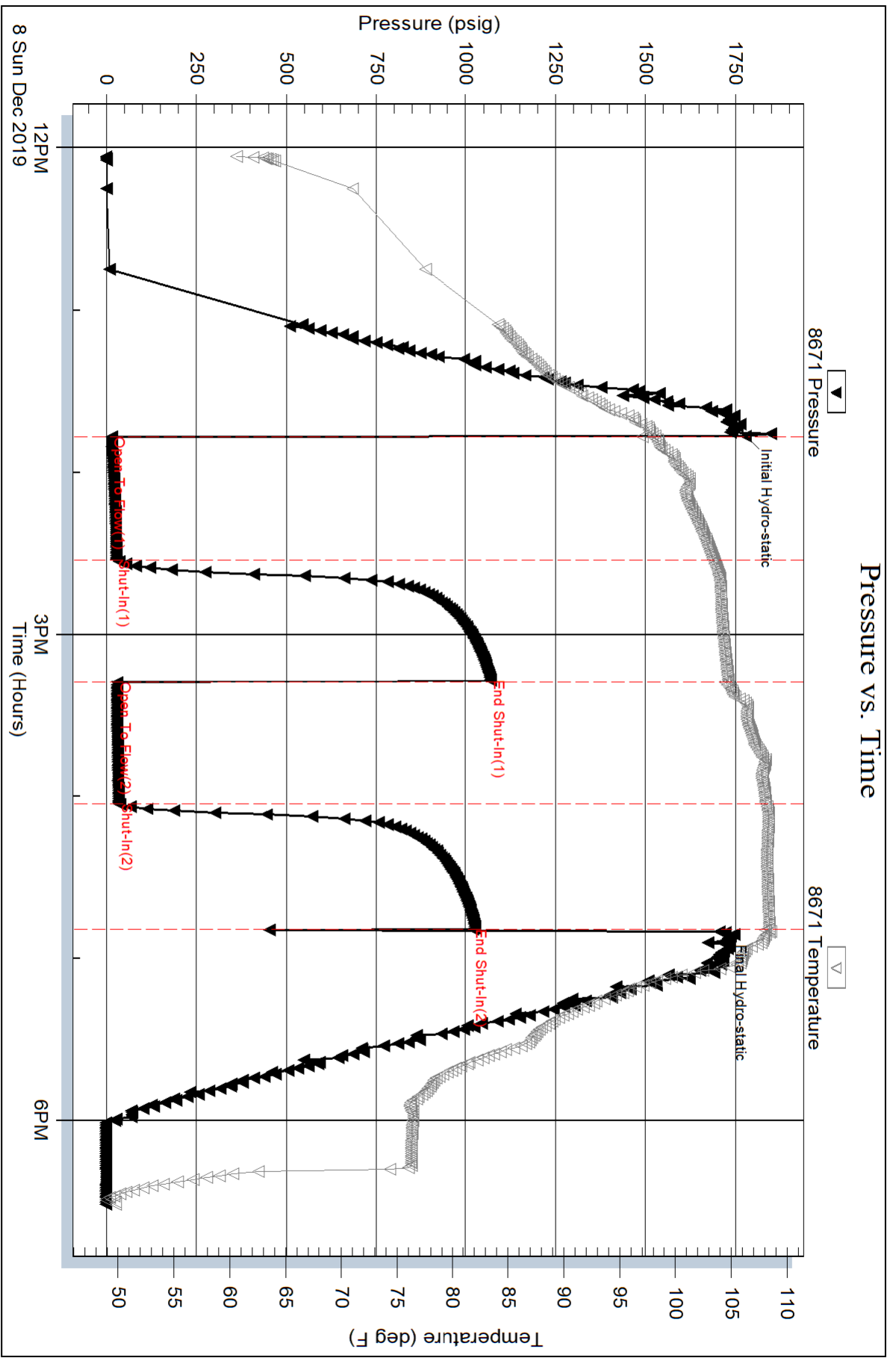
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity - 35 @ 60 deg.





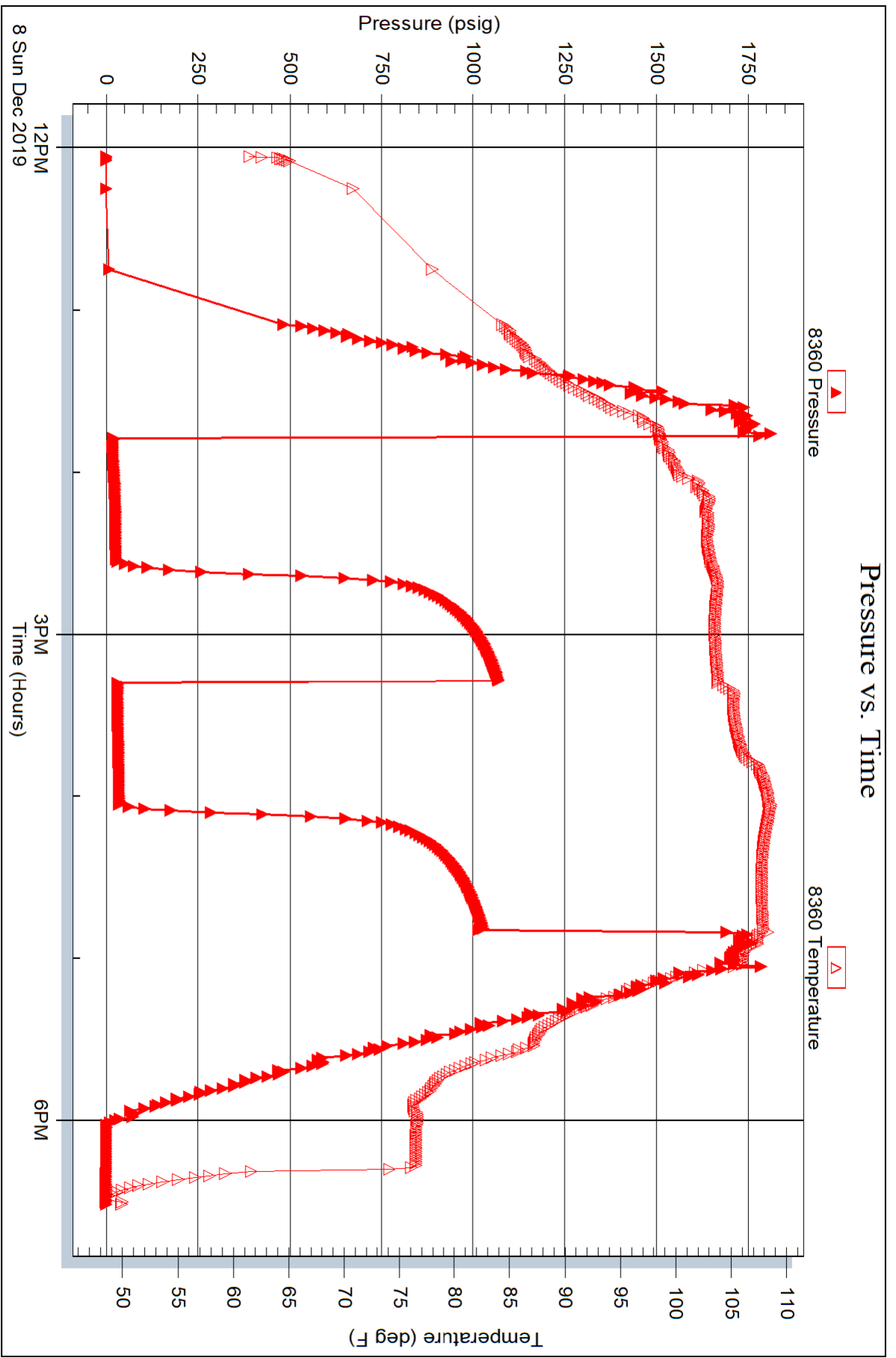
Serial #: 8360

Inside

Dow nng-Nelson Oil Co

Doerr #5-34

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 66336

Printed: 2019.12.09 @ 10:49:45



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66367

NO.

Well Name & No. Doerr #5-34 Test No. 1 Date 12/7/2019  
 Company DNOCJ Elevation 2051 KB 2043 GL  
 Address PO BOX 1019 Hays KS 67601 + 1019  
 Co. Rep / Geo. Marc Downing Rig Discovery #4  
 Location: Sec. 34 Twp 15 Rge. 19W Co. Ellis State Ks

Interval Tested 3389' - 3412' Zone Tested LKC 'E'  
 Anchor Length 23' Drill Pipe Run 3360' Mud Wt. 8.7  
 Top Packer Depth 3384' Drill Collars Run 30' Vis 50  
 Bottom Packer Depth 3389' Wt. Pipe Run - WL 8.4  
 Total Depth 3412 Chlorides 16,500 ppm System LCM 2 1/2 H

Blow Description 27- slid 13ft; Built to 3/4"

JSD - No Return

77- Weak Surface

JSD - No Return

Rec 70' Feet of Mud %gas %oil %water 100 %mud

Rec \_\_\_\_\_ Feet of \_\_\_\_\_ %gas %oil %water \_\_\_\_\_ %mud

Rec \_\_\_\_\_ Feet of \_\_\_\_\_ %gas %oil %water \_\_\_\_\_ %mud

Rec \_\_\_\_\_ Feet of \_\_\_\_\_ %gas %oil %water \_\_\_\_\_ %mud

Rec \_\_\_\_\_ Feet of \_\_\_\_\_ %gas %oil %water \_\_\_\_\_ %mud

Rec Total 70' BHT 100° Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1647  Test 1200 T-On Location 01:18

(B) First Initial Flow 50  Jars \_\_\_\_\_ T-Started 02:00

(C) First Final Flow 52  Safety Joint \_\_\_\_\_ T-Open 05:07

(D) Initial Shut-In 600  Circ Sub \_\_\_\_\_ T-Pulled 07:07

(E) Second Initial Flow 52  Hourly Standby \_\_\_\_\_ T-Out 08:44

(F) Second Final Flow 51  Mileage 4017 40 Comments \_\_\_\_\_

(G) Final Shut-In 496  Sampler \_\_\_\_\_

(H) Final Hydrostatic 1634  Straddle \_\_\_\_\_  EM Tool 350

Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Initial Shut-In 30  Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Final Flow 30  Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_

Final Shut-In 30  Day Standby \_\_\_\_\_ Sub Total 0

Accessibility \_\_\_\_\_ Total 1240

Sub Total 1240 MP/DST/Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Francis J. [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

785-259-0056



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66335

NO.

Well Name & No. Doerr #5-34 Test No. 2 Date 12-7-19  
 Company DNOCI Elevation 2051 KB 2043 GL  
 Address PO Box 1019 Hays Ks 67601 +1019  
 Co. Rep / Geo. Marc Downing Rig Discovery #4  
 Location: Sec. 34 Twp 15 Rge. 19W Co. Ellis State Ks

Interval Tested 3456-3530 Zone Tested LKC H-~~10~~ J  
 Anchor Length 74' Drill Pipe Run 3435, 38 Mud Wt. 9.1  
 Top Packer Depth 3457' Drill Collars Run 31.52' Vis 51  
 Bottom Packer Depth 3456' Wt. Pipe Run Ø WL 8  
 Total Depth 3530' Chlorides 6500 ppm System LCM 2.5 #

Blow Description IF - Surface blow built to 1"  
ISI - No Return  
FF - Surface blow started right away and built to 1"  
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5'</u>	<u>OSM</u>	<u>spots</u>		<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5' BHT 100°F Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1708  Test 1200 T-On Location 7:10 pm  
 (B) First Initial Flow 17  Jars \_\_\_\_\_ T-Started 7:44 pm  
 (C) First Final Flow 24  Safety Joint \_\_\_\_\_ T-Open 9:30 pm  
 (D) Initial Shut-In 67  Circ Sub \_\_\_\_\_ T-Pulled 11:30 pm  
 (E) Second Initial Flow 21  Hourly Standby \_\_\_\_\_ T-Out 1:03 am  
 (F) Second Final Flow 21  Mileage 40 BIT 40 Comments \_\_\_\_\_  
 (G) Final Shut-In 51  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1180  Straddle \_\_\_\_\_

Initial Open 30  EM Tool \_\_\_\_\_  
 Initial Shut-In 30  Ruined Shale Packer \_\_\_\_\_  
 Final Flow 30  Ruined Packer \_\_\_\_\_  
 Final Shut-In 30  Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1240 Sub Total 0  
 Total 1240 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Ryan [Signature] Thanks!  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

785-656-0157



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66336

NO.

Well Name & No. Doerr #5-34 Test No. 3 Date 12-8-19  
 Company DNGCT Elevation 2051 KB 2043 GL  
 Address PO Box 1019 Hays KS 67601 +1019  
 Co. Rep / Geo. Marc Downing Rig Discovery #4  
 Location: Sec. 34 Twp 15 Rge. 19W Co. Ellis State Ks

Interval Tested 3625'-3639' Zone Tested Arbuckle  
 Anchor Length 14' Drill Pipe Run ~~200~~ 3593.96' Mud Wt. 9.1  
 Top Packer Depth 3620' Drill Collars Run 31.52 Vis 47  
 Bottom Packer Depth 3625' Wt. Pipe Run Ø WL 8.8  
 Total Depth 3639' Chlorides 8,000 ppm System LCM 1 1/2 #

Blow Description IF-Started out at a weak blow & built up to 4 3/4"  
ISE-No return  
FE-Started at a weak blow & built to 3 3/4"  
ESI-No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20'</u>	<u>G.M.C.O</u>	<u>10</u>	<u>80</u>	<u>10</u>	
<u>30'</u>	<u>60</u>	<u>10</u>	<u>90</u>		
	<u>10'-G.I.P</u>	<u>100</u>			

Rec Total 50' BHT 108°F Gravity 35 @ 60° API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1778  Test 1200 T-On Location 11:40am  
 (B) First Initial Flow 14  Jars \_\_\_\_\_ T-Started 12:03pm  
 (C) First Final Flow 27  Safety Joint \_\_\_\_\_ T-Open 1:47pm  
 (D) Initial Shut-In 1071  Circ Sub \_\_\_\_\_ T-Pulled 4:47pm  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 6:31pm  
 (F) Second Final Flow 33  Mileage 40 R/T 40 Comments loaded tool after test.  
 (G) Final Shut-In 1020  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1706  Straddle \_\_\_\_\_

Initial Open 45  Shale Packer \_\_\_\_\_  EM Tool \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Shut-In 45  Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1240  
 Sub Total 1240 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

<b>Marc A. Downing</b>	<b>Geologic Report</b>
<b>Consulting Petroleum Geologist</b>	<b>Drilling Time and Sample Log</b>

Operator <b>Downing-Nelson Oil Co., Inc.</b>	Elevation KB <b>2051</b> DF <b>2049</b> GL <b>2043</b>			
Lease <b>Doerr</b>	No. <b>5-34</b>			
API # <b>15-051-26979-0000</b>	Casing Record Surface <b>8 5/8" @ 1260'</b> Production <b>5 1/2" @ 3635'</b>			
Field <b>Zimm</b>	Electrical Surveys <b>CNDL, DIL</b> <b>MEL</b>			
Location <b>1790' FSL &amp; 2289' FWL</b>				
Sec. <b>34</b> Twp. <b>15s</b> Rge. <b>19w</b>				
County <b>Ellis</b> State <b>Kansas</b>				
Formation	Sample tops	Log Tops	Datum	Struct Comp
Top Anhydrite	1245	1247	+804	+4
Base Anhydrite	1292	1288	+763	+5
Topeka	3021	3022	-971	-3
Heebner	3292	3293	-1242	-6
Toronto	3314	3315	-1264	-6
LKC	3339	3340	-1289	-7
BKC	3580	3581	-1530	FL
Marmaton	3600	3601	-1550	+1
Arbuckle	3634	No Log Top	-1583	Absent
Total Depth	3639	3640	-1589	

Drilling Contractor **Discovery Drilling, Rig #4**  
 Commenced **12-2-19** Completed **12-8-19**  
 Samples Saved From **3000** To **RTD**  
 Drilling Time Kept From **2900** To **RTD**  
 Samples Examined From **3000** To **RTD**  
 Geological Supervision From **3000** To **RTD**

**Summary and Recommendations**

Due to structural position, DST recovery, and log evaluation, it was decided to set 5 1/2" production casing for open hole completion in the Arbuckle.

Respectfully Submitted,

Marc A. Downing

**ROCK TYPES**  
 shale, gry  
 shale, red  
 shale, gry  
 Carbon Sh  
 Dolprim  
 Lmst fw7>

**ACCESSORIES**  
 green shale  
 red shale  
 Chert, dark  
 Varicolored chert  
 Chert White

**STRINGER**  
 green shale  
 red shale

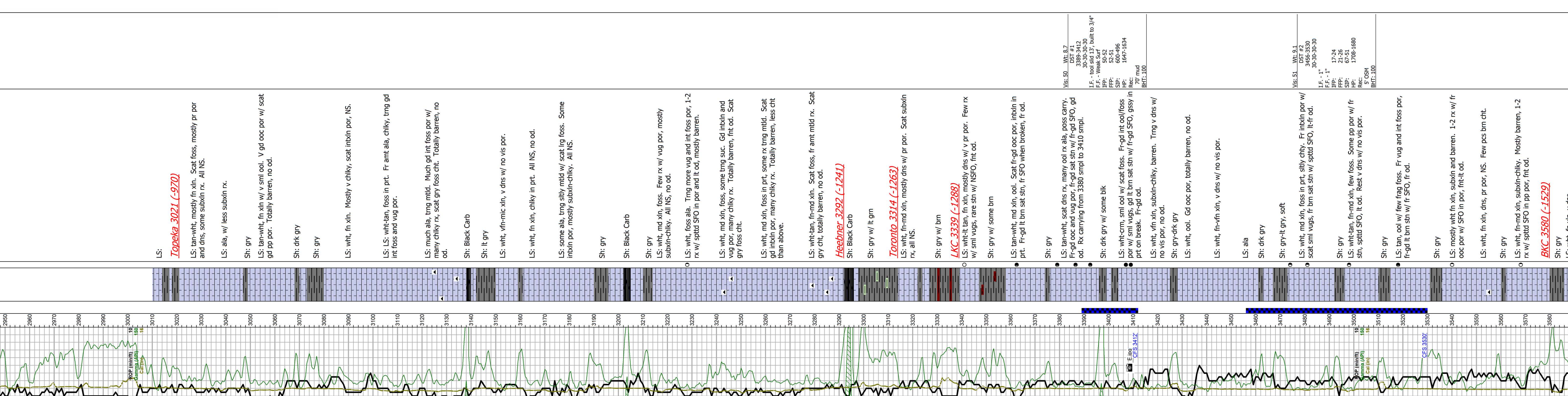
**OTHER SYMBOLS**  
 DST  
 DST Int  
 DST alt  
 Core  
 Tail pipe  
 Daily Report  
 Digital Photo  
 Document  
 Folder  
 Link  
 Vertical Log File  
 Horizontal Log File  
 Core Log File  
 Drill Cuttings Rpt

**OIL SHOWS**  
 Even Stn  
 Spotted Stn 50 - 75 %  
 Spotted Stn 25 - 50 %  
 Spotted Stn 10 - 25 %  
 Oil  
 Dead Oil Stn  
 Fluorescence

**MINERAL**  
 Chert, dark  
 Varicolored chert  
 Chert White

**MISC**  
 Daily Report  
 Digital Photo  
 Document  
 Folder  
 Link  
 Vertical Log File  
 Horizontal Log File  
 Core Log File  
 Drill Cuttings Rpt

**Curve Track #1**  
 ROP (min/ft)  
 Gamma (API)  
 Cal (in)



**Geological Descriptions**  
 Comment  
 Oil Shows  
 Lithology  
 DST  
 Core Log File  
 Drill Cuttings Rpt

**Geological Descriptions**  
 Comment  
 Oil Shows  
 Lithology  
 DST  
 Core Log File  
 Drill Cuttings Rpt

CUSTOMER Downing-Nelson WELL NO. 5-31 LEASE Doerr JOB TYPE Deep Surf. TICKET NO. 32643

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2100							On location
	2130							8 5/8
	2315							RTD - 1258
	2330	6	20			300		START Running Csg
		6	0			300		BREAK Circ on Btm
		6	47			300		pump Kel spooler
		6	104			300		START CRT - 100 sks @ 11.8 mg
		6	120			400		Raise wgt to 12.5 mg for 150 sks
		6	133			400		Raise wgt to 13.5 mg for 50 sks
								Raise wgt to 14.5 for 50 sks
								END CRT
								Release plug
	0000	6	0			300		START Disp
		6	55			500		Circ CRT - 50 sks to pit
	0015	6	80			800/1200		land plug - lift - 800 #
								land - 1200 #
								Shut in
								JOB Complete
								Thanks
								Davin Zach & Isaac



PO Box 466  
Ness City, KS 67560  
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 32762

CUSTOMER  
Downing & Alsen, Inc

WEL  
Daerr 6-34

DATE  
12/09/19

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WEL		DATE	UNIT PRICE	AMOUNT
		LOC	ACCT	DF			QTY	U/M			
325						Standard Cement	180	SKS	12/09/19	1.30	243.00
284						Cal Seal	8	SKS		4.60	36.80
283						Salt	950	lbs		0.25	237.50
292						Halad 322	85	lbs		8.00	722.00
276						Elocele	50	lbs		3.00	150.00
581						Service Charge Cement	180	SKS		1.85	333.00
583						Mileage Charge TOTAL WEIGHT 18805 ROAD MILES 40 TON MILES 376.1				0.95	357.00
CONTINUATION TOTAL											4549.00

4549.00  
4549.00

JOB LOG

SWIFT Services, Inc.

DATE 12/09/19 PAGE NO. 1

CUSTOMER Downing & Nelson WELL NO. 5-34 LEASE Doerr JOB TYPE Long String TICKET NO. 32702

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0615							On location w/float Equipment Rig Changing Over, No Pipe on location.
	0645							Pipe being Unloaded + Tally'd  RTD - 3635 LTD - 3640 5 1/2" x 14# - 3628.17 Packer Shoe @ 3636.17 Shoe Jt - 42.5, Baffle - 3593.67 Centralizers - 4, 3, 5, 7, 9, 11 Basket - 12
	0800							Start Pipe w/ Float Equipment Break Circulation on Bottom
	0930							Plug Rathole w/ 30 SKS
	1045	2	7					Plug Mousehole w/ 15 SKS
		2	3 1/2					300 Pump Mudflush
		5	12					300 Pump KCL Spacer
		5	20					300 Pump EA-2 Cement
		4 1/2	32					Drop Plug, Washout Pump Lines
		7						Start Displacement
		6	64				500	Catch Pressure
		6					900	Lift Pressure
	1145	6	87 3/4				1550	Land Pressure
								Release Truck, Dry Wash up Rack up
	1200							Job Complete

Thanks  
Jon, Austin, Isaac